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# Designing Report Forms

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## Overview

The MAT application includes several pre-designed forms you can use to run the most common reports. MAT also includes a Report Generator module that includes a Forms editor. The editor lets you modify existing forms or create your own forms for customized reports.

The Forms editor lets you generate a customized layout for a report by piecing together predefined report sections.

## Form Section Concepts

The Report Generator organizes a report by sections. A report form can contain one or more sections:

- Report Header
- Page Header
- Sort Header(s)
- Detail Section
- Page Footer
- Sort Footer(s)

Each of these sections is optional, but a form must contain at least one section and can have only one of each type. Each section allows an internal free layout of data. The only restriction is the position a section occupies on the report in relation to the other sections.

When you insert a new section in a form, it automatically positions itself correctly relative to other sections. This position is indicated in the Editor window by a line with the section title printed on it. This line is not part of the form, it merely serves as the top boundary of the section it indicates. The list above indicates the order in which the sections will appear in the form.

Arranging sections within a form is described in “Changing Sections” on page 104.

## The Forms Editor

The Forms Editor is an application within the Report Generator that lets you design and customize a report using the current database.

Choose **Form - New Report Format** to display the Forms Editor, with a blank form in the working area. Choose **Form - Open Existing Report Format** to display a dialog that lets you select from a list of forms for the current system database.

**Figure 43**  
Select a Form File dialog



The currently selected form is highlighted. Select a form from the list and click **OK** to invoke the Forms Editor. The Forms Editor contains a menu of actions to perform:

### File Menu

This menu contains commands for saving the current report file and specifying the report parameters.

**Select Report View:** Lets you select the key selection criteria that determine the content of the report at runtime.

**Save:** Store the current report form to a file. If it is a new form, you are prompted for a filename (up to eight characters followed by a period and an extension of up to three characters).

**Save As...:** Store the current report form to a file. Report form files must be stored in the common data directory. MAT will not allow changes to the path for these files.

**Printer Setup:** The Windows default printer is automatically assigned to the current form when you save it. This selection lets you select a different printer and printer configuration to be associated with the current form from a list of installed printers.

The printer options that you select here determine the width and height of the report. The width of the report is indicated by the length of the section separation lines in the form editor window.

**Exit:** Close the Forms Editor and return to the Report Generation window. If the current form has not been saved since the last change, you are prompted to save it before exiting the editor.

## Edit Menu

This menu contains miscellaneous edit and cursor navigation functions:

**Insert Line After/Before:** Puts a blank line following/preceding the current cursor position.

**Delete Line:** Removes the current line, moving all successive lines up.

**Highlight Off:** Turns off any highlighting in the current form (lets you deselect text and fields).

**Beginning/End of Line:** Moves the cursor to the left/right end of the current line.

**Next/Previous Word:** Moves the cursor to the beginning of the next/previous word or field in the form, going to the next/previous line if necessary.

## Section Menu

This menu contains commands to insert, edit, and delete report sections.

**New...:** Lets you add a section to the current form. Sections include:

- Report Header: Appears at the top of the report only
- Page Header: Appears at the top of each page of the report
- Detail Section: Defines data to be reported
- Page Footer: Appears at the bottom of each page of the report
- Sort  $n$  Header: The  $n$ th sort criterion field for the report ( $n = 1 - 9$ )

The section title is displayed at the current position of the selected section on the form. This line indicates the Forms Editor cursor location. It will not appear on the printed form.

**Edit Current...:** Lets you define the layout of the section in which the Forms Editor cursor is currently positioned. Displays a dialog containing check-boxes for defining section layout at runtime. Choices include:

- Start new page before this section
- Start new page after this section
- Do not include blank lines
- Suppress trailing (or leading) blanks in a field
- Titles on every page of the report

**Delete Current...:** Removes the section in which the cursor is currently positioned.

**Sort Field...:** Lets you change the current sort field selection. This selection is not available unless the form has sort fields defined (use the **Section New** function to insert sort fields).

**Break Field...:** In a typical report, the break field is the same as the sort field. This selection lets you define a field for a section break that is not a sort field.

## Field Menu

This menu contains options to insert, modify, delete, and maintain fields.

**Insert New Field:** Displays a submenu that lets you choose a field type for insertion into the form at the cursor position. Field types include:

- **Data Field:** Displays a list of data fields in a record of the system database
- **Calculation Field:** Displays a box for entering a formula for the field
- **System Field:** Displays a list of MAT system fields

**Edit Current Field...:** Lets you modify attributes for the current field.

**Edit Field Expression...:** If you have a calculated field at the cursor position, this selection lets you modify the formula.

## Options Menu

This menu lets you define the appearance of the report and select data records for inclusion in the report.

**Report Parameters...:** Brings up a dialog that allows you to specify certain report parameters:

- Name of the report (This is not the Windows filename.)
- Margins for the printed page
- Output of some trial records for form layout adjustment
- Default date format for input and during execution

**Report Filter...:** This option allows you to enter a filter criteria for the report. Each data record is tested with the expression that you provide here. A record is selected only if this expression evaluates to a TRUE value. For example, if the expression was *DN->amount>1000*, then only records with a DN higher than 1000 are included in the report.

## Fonts Menu

This menu contains formatting commands for highlighted characters (and field values) at runtime.

**Normal:** Removes character formatting, if any)

**Formatting:** Normal, **Bold**, Underline, *Italic*, Superscript, Subscript, Strike.

**Fonts:** Lets you select font and size for highlighted characters and fields. The report generator allows only fixed space fonts. You should be careful that columnar text uses the same font size and spacing to maintain column alignment.

## Changing Sections

Here is an example of a blank form with all sections in place. The sections are divided by a line labeled with the section name. These lines are place indicators only and will not appear on the printed report.

The **Section** menu lets you change the sections as described below.

### Insert a Section

To insert a section in a form, choose **Sections - New** with the cursor anywhere in the Forms Editor window. This displays a Select New Section dialog with a list of available sections (all sections that do not appear in the form).

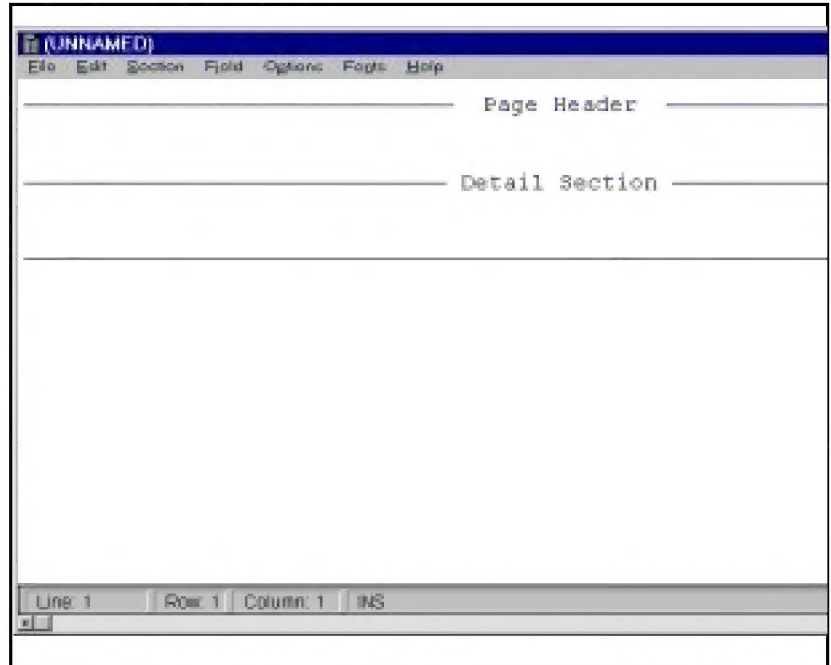
The currently selected Section is highlighted. Select a section and click **OK** to insert the section in the current form.

At insertion time, each section contains one blank line. Use the **Edit - Insert Line After/Before** functions to change the section size at any time while the cursor is in the work area of the section (below the section title line and above the next section title line).

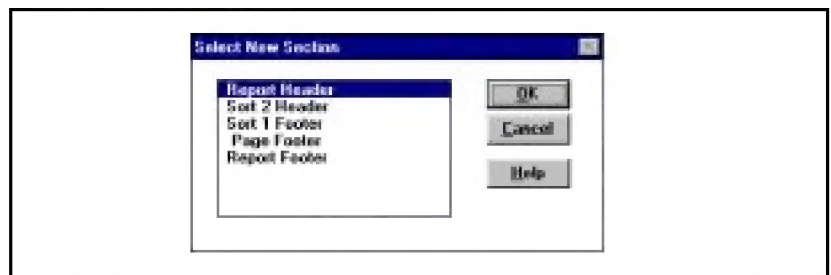
### Define Section Parameters

You can set runtime parameters for the section at the current cursor position. Choose **Section - Edit Current** to display an Edit Section Info dialog with check-boxes that let you set or clear section parameters.

**Figure 44**  
**Example blank report form**



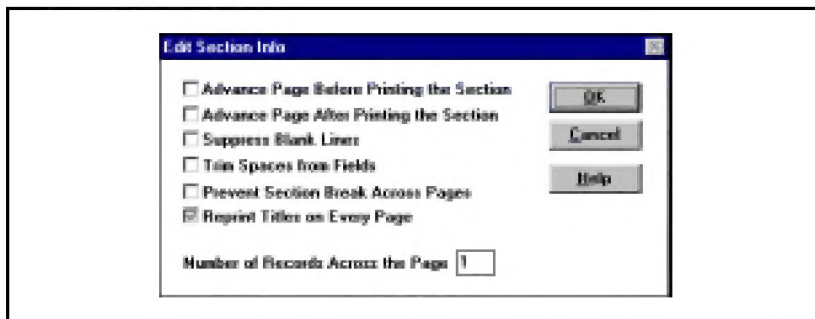
**Figure 45**  
**Select New Section dialog**



Select the appropriate check box to toggle parameter selection. The parameters include:

- Advance Page Before Printing the Section: The section is printed at the top of the next page.

**Figure 46**  
**Edit Section Info dialog**



- Advance Page After Printing the Section: Causes a printer Form Feed after this section.
- Suppress Blank Lines: Causes blank lines not to be printed.
- Trim Extra Spaces from Fields: If a field value is shorter than the field maximum length, this selection causes the field length to be truncated to the length of the value.

**Note:** If you are using a columnar format, this parameter might cause misalignment of columns.

### **Report Header / Footer**

These are printed only once, at the beginning/end of the report. The header is generally used as a title and description of the report. The footer might be used as a report summary. A report header and footer can contain free text and fields such as System Date and Time.

### **Page Header / Footer**

These are printed at the top/bottom of every page in the report (beneath the Report Header on the first page and above the report footer on the last page). The header might contain text such as Report title, column headers and any other pertinent text as well as fields such as System Page Number, Date, and so on. The footer might be used for page numbers and page by page field totals or other pertinent data or text.



**Sort Header / Footer**

Each of these sections indicate a field that the report will use for a sort break. The field you choose is not printed. You can place text or fields or both text and fields at these section breaks to describe the sorts being used in the report.

**Detail Header**

This section contains a list of data for each record of the database, selected and sorted according to defined criteria.

## Edit a Form

Text and data are added at the current position of the cursor within the form. Move the cursor using the mouse or the keyboard arrow keys. The status line at the bottom of the window gives the cursor position by line (row) down and character (column) across. The <Ins> key toggles the insert/overtype mode. The status line indicates **INS** for insert mode (text moves everything to the right of the cursor to the right) or **OT** for overtype mode (text replaces existing text at the cursor position).

Type to insert text. There is no automatic line wrapping. If you insert a carriage return (<Enter>), the cursor is returned to the beginning of a new blank line.

You can use the **Edit** menu to move the cursor within a line, as follows:

- **Start of Line:** left end of line
- **End of Line:** right of the last character on the line
- **Next Word:** first letter of the word to the right of the cursor
- **Previous Word:** first letter of the word to the left of the cursor.

To insert and edit a field at the current cursor position, use the **Field** menu.

## Insert a Field

Choose **Field - Insert New Field** to display a submenu with a list of data field types to paste at the current cursor location. This option is not available when the cursor is positioned on a section separation line or on an existing field.

The selected field appears at the current cursor location as a series of “x” symbols that represent the maximum number of characters in the field, as defined in the database. You can delete any number of field symbols to reduce the field length. To increase the field length, position the cursor on any field symbol except the first one, and type spaces. You can change the current field attributes by choosing **Field - Edit Current Field**.

## Insert Data Field

A data field is one field in each record of the current database. If you choose **Field - Insert New Field - Data Field**, a list of data fields is displayed in a Select Data Field dialog. See “Select Data Field” on page 47 for further details.

Click **OK** to paste the selected field into the form at the current cursor position.

## Insert Calculation Field

A Calculation field contains an expression that is a combination of data, functions, and operators. At runtime, the expression result is output for each record. You must supply a name for the field as well as the expression to be evaluated. The **Field - Insert New Field - Calculation Field** option first prompts you for the name of the field in a Calculation Field Name dialog.

**Figure 47**  
**Calculation Field Name dialog**



You can enter up to 48 alphanumeric characters (not blanks) in the text box to represent the calculated field name.

Click **OK** to enter an expression for the calculated field. The procedure for expression entry is the same as for “Define Selection Criteria” on page 46.

## Insert System Field

A System field contains MAT system-dependent information, such as date, time, report page number, and record count. This information is typically in the report or page header or footer. One System field, `WRAP_OVERFLOW` allows a data field to overflow to the next line or lines. For example, a comment field of 30 characters could contain 10 characters in the data field itself and ten in each of two `WRAP_OVERFLOW` fields (generally placed directly under the data field itself).

If you choose **Field - Insert New Field - System Field**, a list of System fields is displayed in a Select System Field dialog. The procedure is the same as in “Select Data Field” on page 47.

Click **OK** to paste the current highlighted field in the form at the cursor position.

## Edit Field Attributes

This option, available by choosing **Field - Edit Current Field**, is used to edit the attributes for the current field. This option is available only when the cursor is positioned on a field. The field name is displayed in the status bar of the form window. The option displays a set of attributes that can be modified for the current field. You can modify the field attributes as needed.

The attributes that you can modify depend on the type of field. Field types include:

- Text (alphanumeric characters)
- Numeric (numbers, including thousand separators and decimal point)
- Date (date in predefined formats)

## Edit Text Field Attributes

If the cursor is located within a text field and you choose **Field - Edit Current Field**, a Text Field Parameters dialog displaying the current attributes for the field appears.

The following parameters can be modified:

**Field Alignment:** By default, text data at runtime is left-aligned. You can use the radio buttons to select left, center, or right alignment.

**Figure 48**  
**Text Field Parameters**



**Wrap:** If the field length on the form is too short to accommodate the data at runtime, you can select a wrap option to run the text to a WRAP\_OVERFLOW System field that you have already defined. The Wrap option breaks at the end of the current field, and the Word Wrap option breaks at the end of the last word before the end of the field. The default attribute has no wrap option selected.

**Capitalization:** By default, all text in the data field is printed as stored in the database. You can change this to all capitals, leading capitals, or all lower case, by selecting the appropriate check-box.

**Trim Extra Spaces:** This check-box trims the field length to the length of the data that is entered at runtime.

*Note:* If you are using columns, this option might cause columns to become misaligned.

## Edit Numeric Field Attributes

If the cursor is located within a numeric field and you choose **Field - Edit Current Field**, a Numeric Field Parameters dialog displaying the current attributes for the field appears.

The following attributes can be modified:

**Field Alignment:** By default, numbers are left-aligned at runtime. You can use the radio buttons to select left, center, or right alignment.

**Figure 49**  
**Numeric Field Parameters dialog**

**Number of Decimal Places:** If the field contains a real number, this option lets you select the number of digits printed to the right of the decimal point.

**Currency Symbol:** If the field represents money, you can use this option to define the currency symbol.

**Sign Representation:** This option lets you select how to represent negative and positive number values. You can enter a character for prefix and suffix for both positive and negative numbers.

**Zero Values:** Check the Suppress Zero Values check-box to suppress printing this field if it contains a value of zero. Check the Pad with Zeroes check-box if you wish to align the number to the right of the field and fill with leading zeroes. Check the Use Comma Format check-box to insert a comma between thousand values in the field.

In addition to these attributes, you can edit the following attributes for fields that are located in the footer section of the report:

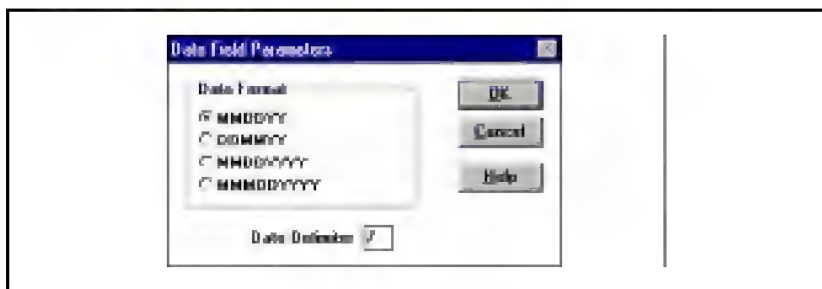
**Summarization Type:** A numeric field in the footer could require the report to print a summary value. This option is a function selector that displays a list of possible summary values, such as total, average, maximum, minimum, or count. You can also print the actual value for the field by selecting Value.

**Retain Value After Printing:** If the footer is a page footer, you can check this option to print “running” values instead of the value for each page.

## Edit Date Field Attributes

If the cursor is located within a Date field and you choose **Field - Edit Current Field**, a Field Name Edit dialog displaying the current attributes for the field appears.

**Figure 50**  
**Date Field Edit dialog**



You have a choice of four formats for the Date output, selectable by radio button:

MMDDYY  
DDMMYY  
MMDDYYYY  
MMMDDYYYY

You can also define the date delimiter by entering a required one-character delimiter in the Date Delimiter text box (/ or - , for example).

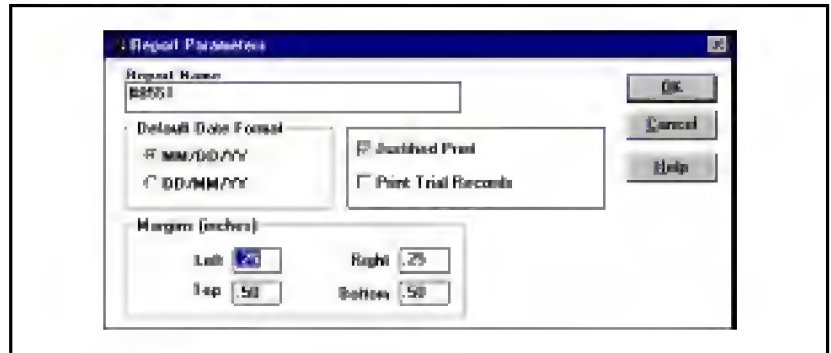
## Edit Calculation Field Expression

This option is available only when the cursor is positioned on a calculation field and you choose **Field - Edit Field Expression**, or when you are first inserting a calculation field in the form. The option shows the existing calculation expression, if any, in a dialog and allows you to make modifications. The action of this dialog is the same as that for “Define Selection Criteria” on page 46.

## Setting Report Parameters

The Forms Editor **Options** menu lets you set parameters for the report. These parameters are stored with the form and will be operative at runtime.

**Figure 51**  
**Report Parameters dialog**



The parameters are defined in a dialog when you choose **Options - Report Parameters** in the Forms Editor. Parameters include the following:

**Report Name:** A text box that lets you enter up to 36 contiguous alphanumeric characters. This name is used in the MAT system as the name for the report and the form. This is not the same as the Windows filename.

**Default Date Format:** A pair of radio buttons that lets you define the format in which dates are printed at runtime. The two formats are MM/DD/YY or DD/MM/YY.

**Print Trial Records:** Run the report with just a few records. This enables you to check that the form generates a report with a suitable appearance and layout.

**Margins:** Four text boxes that let you set the page margins. Enter numeric data only, and ensure that the page layout is valid.

## Character Formatting

You can set the appearance of printed text using the **Fonts** menu. By default, text and fields are output in the Windows default font with Normal (unmodified) attributes.

A selection from this menu acts on the selected data. To highlight data (text and fields) place the cursor at one end of the data to be highlighted, hold down the left mouse button and move the cursor to the other end of the data. To turn off highlighting, click anywhere in the form that is not highlighted.

Use the **Fonts** menu to display a list of character enhancements. Select one to print the highlighted text with that enhancement. Enhancements include the following:

Normal, **Bold**, Underline, *Italic*, <sup>Superscript</sup>, <sub>Subscript</sub>, ~~Strike~~.

When you apply an enhancement, highlighting is removed. If you desire more than one enhancement for any text, you must highlight the text again and select another enhancement. To remove an enhancement, highlight the text and choose **Font - Normal**.

## Font Selection

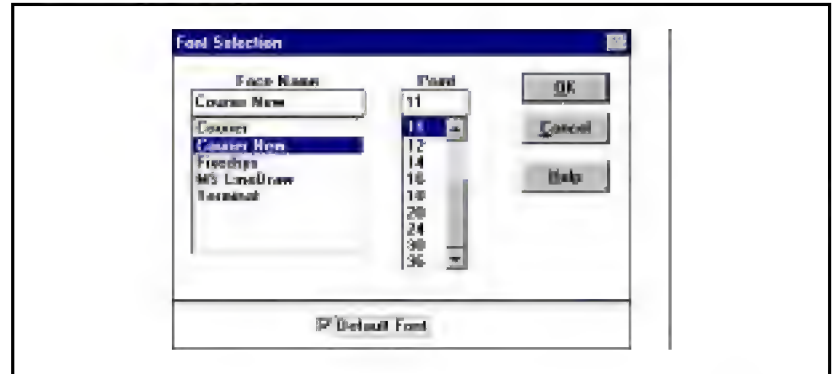
Choosing **Fonts - Fonts...** brings up the Font Selection dialog box, from which you can select a font for the selected text.

The Face Name box contains the name of the font for the selected text. A list box shows available fonts with the current font highlighted. Click the desired font to change the current font in the Face Name box. Use the arrows to help find the desired size, and click to select the font size.

Click **OK** to set the highlighted text to the currently selected font and size.



**Figure 52**  
**Font Selection dialog**



To use a single font for the entire report, select the font face and click the **Default Font** check-box. This becomes the Normal enhancement selection.

## Report Criteria

The Forms Editor **Options** menu lets you select criteria for record selection in the report. The criteria cannot be set at runtime, and are stored with the form in which the selection is made. The criteria are defined in an expression that displays in a Select Record Criteria dialog when you choose **Options - Record Criteria**. The action of this dialog is the same as for “Define Selection Criteria” on page 46.

## Building a Report in the MAT Report Generator - Form Editor

Reports in MAT are built using report forms. The report form contains the information that allows the same report to be run repeatedly with new or updated data. The report form stores information that fully describes the report to the MAT software. A report form is comprised of several sections that describe different aspects of the report. A number of standard report forms are provided with the MAT software to provide some commonly used reports.

This section describes a typical session to build a new report form. As an illustration, it produces a modified version of one of the MAT standard reports: Telephone Directory by Department. The report will print the department name once and print the station information for each department underneath the department heading.

This section describes a step-by-step process to produce a report form. As you become more proficient using the Report Generator, you might find that you use a different series of steps to build or modify reports. Perform the following steps to build a report form:

- 1        Decide what information needs to be displayed on the report.
- 2        Select the Report View that best provides the information.
- 3        Place the individual data fields on the report.
- 4        Decide if the report lines should be sorted.
- 5        Specify any special printer considerations for this report.
- 6        Apply the finishing touches.
- 7        Save the report and test the results.

To work with Report Forms, start the Report Generator (choose **File - Reports - Report Generator**). Choose **Form - New Report Format**. This example shows how to create a new form. The report generator places an empty report form on the screen.

## **Decide what information needs to be displayed on the report**

As we will see in the next section, information in MAT is organized into several logical databases. A report can use any one of these logical databases. There is also MAT system-dependant data that can appear on a report. This data includes date, system name, page number. Reports also can contain fixed text, typically headings or other constant text information.

In this example, we are using station information (as distinguished from CPND or VMB information). We can sketch out a rough picture of the report as a guide to what will fit on the page and how much heading information will be included.

**Figure 53**  
**Empty Report Form**

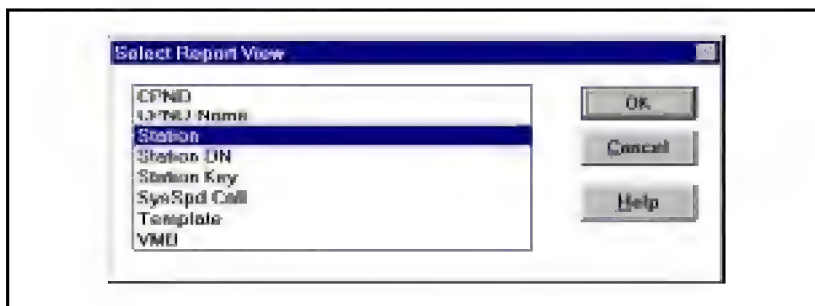
The screenshot shows a software window titled "UNNAMED" with a menu bar containing "File", "Edit", "Section", "Field", "Options", "Forms", and "Help". The main workspace is divided into three horizontal sections: "Page Header", "Detail Section", and "Sort Footer". The "Page Header" section is at the top, followed by the "Detail Section" which is the largest area, and the "Sort Footer" section at the bottom. The "Sort Footer" section contains a table with four columns: "Line 1", "Row 1", "Column 1", and "Info".

The basic model of the Report Generator is to read each record in the logical database, decide if it should be included in the report (according to the Report Filter). Some reports sort the records (according to the Sort Header sections). Finally, the records are printed. Some reports print out a line for each record included in the report (specified in the Detail section). Some reports print out summary information (specified in the Sort Header or Sort Footer section), such as the total number of particular instrument types. Some reports combine the detail and summary information

## Select the Report view that best provides the information

After deciding to build a report focusing on station data, pick an appropriate Report View. Views provide alternative ways of looking at the data. Some of the report views describes the type of data. If the report describes CPND configuration information, then choose the CPND view; for CPND Name information (by Directory Number or Group) use the CPND Name view; for VMB information (by Directory Number) use the VMB view.

**Figure 54**  
**Select Report view**



Station data is provided with some alternative views. If the report should print one line for each station, then choose the Station view. If the report should print one line for each Assigned Directory Number, then choose the Station DN view. If the report should print one line for each station key, then use the Station Key view. (In the Station Key view, single line information is included by assigning “pseudo key numbers” to the single line key features.) The SysSpdCall view is a special view primarily designed for the System Speed Call Report. It provides one record for each system speed call list user. If the report is selecting only certain records from the database or printing only summary data, then it will not actually print a line for each record, but the view describes how the selecting and sorting process examines the records in the database.

## Place the individual data fields on the report

Once the Report View has been chosen and the basic design of the report has been defined, it is time to place the data on the report page. The Report Generator Forms Editor shows the current form broken into its logical sections. Initially the Page Header section and the Detail section are displayed. As other sections are incorporated into the form, they are displayed as well. In this example, the report contains the following sections:

**Page Header:** This section contains the information displayed at the top of each page. Typically, it would contain the report title, the column headings over the data, the page number, the system name.

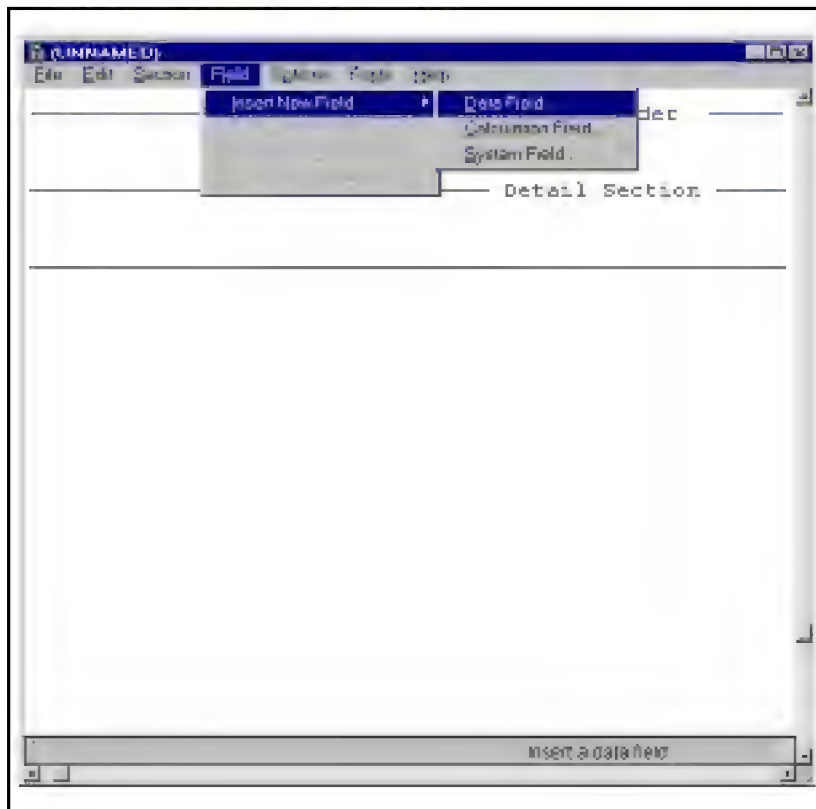
**Detail:** The detail section describes the data items that would appear on each line in the body of the report. Typically, it would contain data from each record in the database that is included in the report. The data might be data items from the record or calculated fields built from the data fields. Calculations allow the report to create specially formatted names or other special expressions.

**Sort Header:** The sort header sections (there can be several) describe how the lines in the report will be ordered. Sort 1 Header describes the primary sort, if two records have the same value for the sort field, then Sort 2 Header can be used to refine the order of the report. A report that should be ordered by name, might specify LastName in Sort 1 Header and FirstName in Sort 2 Header.

It is often easier to design the report by specifying the Detail section first. This allows you to lay out the data on the page before placing the column headers. Treat the screen as a blank report page and position the cursor in the Detail section where the field should be placed. Choose **Field - Insert New Field - Data Field** to see a list of available data items.

Choosing **Field - Insert New Field - Data Field** displays a list of the fields that apply to this report view. This Select Data Field list will also appear in other situations where you need to select a field. Several data fields have been added specially to help produce reports and some fields have special meanings that affect their use in reports. Some examples of special reporting data fields include:

**Figure 55**  
**Inserting Data Field in the Details section**



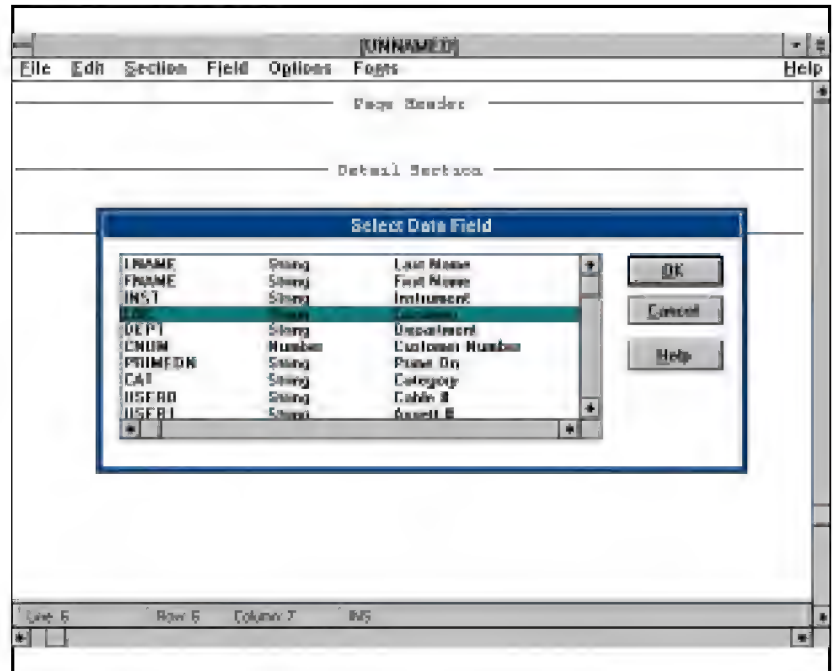
ADN - All Directory Numbers: a list of all the Directory Numbers assigned to the station. This field creates a text field with the DNs separated by a space.

ACDS: Keys Assigned to Automatic Call Distribution, showing both the ACD DN and Position ID.

DN: This the Directory Number assigned to a single line station. The PRIMEDN field contains the Directory Number assigned to a single line station and the Directory Number assigned to Key 0 on multi-line station.

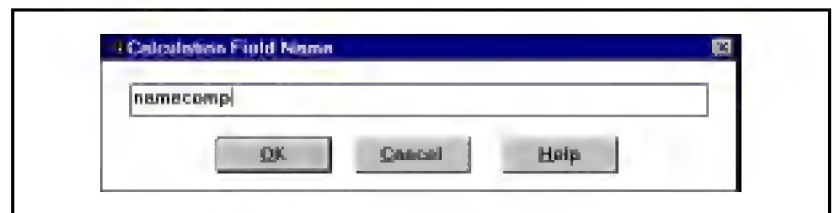
Key features should be reported from the Station Key view and not from KEYGUPD or FTRGUPD.

**Figure 56**  
Select Data Field dialog



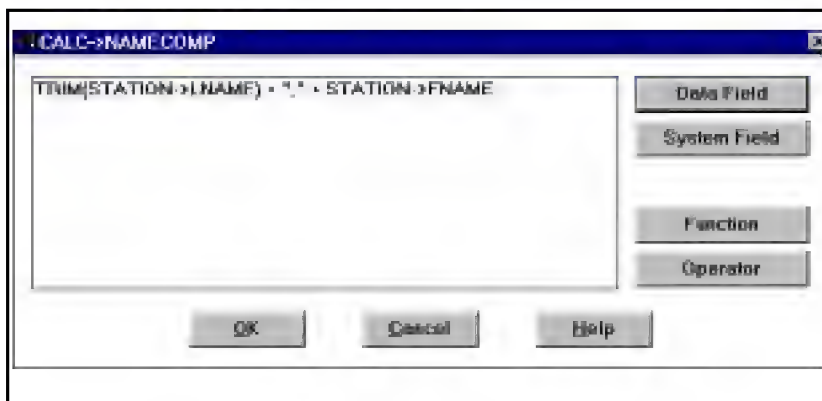
Use a calculated data field to tailor the information from the data record. To use a calculated field in a report, choose **Field - Insert New Field - Calculation Field**. A dialog appears, prompting you to name the newly calculated field.

**Figure 57**  
Naming a Calculation field



The Field Name dialog is followed by a dialog that allows you to construct an expression that performs the calculation. It can be built from existing data fields, functions, and operators. The following example constructs a field that contains “Last Name, First Name”.

**Figure 58**  
**Defining a Calculation field**



Note that the TRIM function is used to remove extra spaces and the “+” operator is used to concatenate the two fields. You can type the expression directly in the box or you can select the fields (from the **Data Field** or **System Field** buttons), the functions, and the operators. The expression will be built as the pieces are selected.

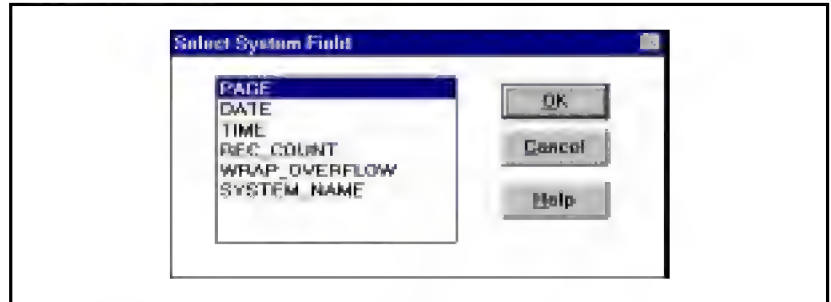
Note that some functions apply to text fields and some functions apply to numeric fields. The Select Data Field list shows whether a field is numeric or text. In general, functions should not be applied to the System fields.

After the detail section has been specified, you can design the Page Header section. The text for the column labels can be placed over the appropriate data. The Page Header section often uses the System data fields: page number, system name, date, and time. Choose **Field - Insert New Field - System Field** to select one of these data fields.

The Page, Date, Time, and System\_Name fields are commonly used in the Page Header section. We will discuss the other system fields in later in the section titled “Some Special Techniques”.



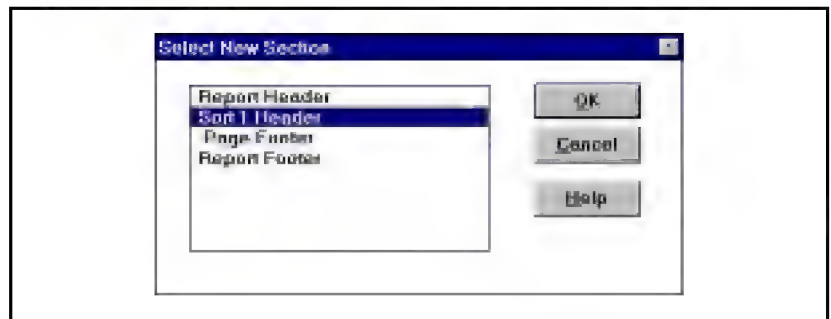
**Figure 59**  
**System Field list**



### Decide if the report lines should be sorted

Many reports require the data to be sorted. Since there is no sort information on a new report form, choose **Section - New Section** and select Sort 1 Header from the dialog. This will add a sort section to the report.

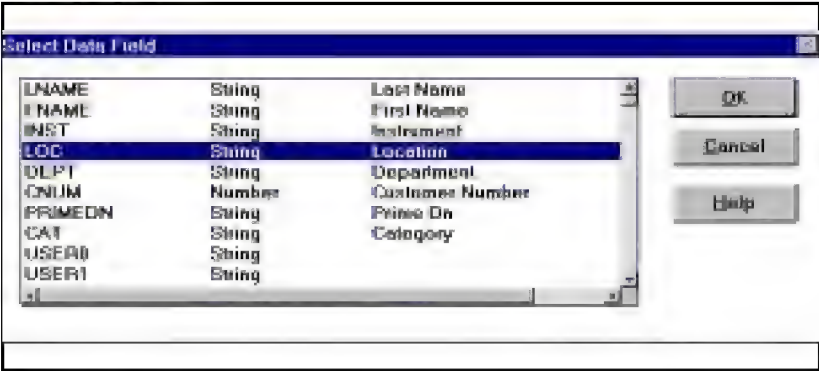
**Figure 60**  
**Select New Section**



The first sort section specifies the data field that provides the primary ordering of the data. The data value to use for sorting will be selected from the list of data fields.

Other sort sections will be applied only to provide secondary order levels within the primary ordering. To order a report by alphabetizing the names of people in a department, the report should use Department for Sort 1 Header, LastName for Sort 2 Header, and FirstName for Sort 3 Header.

**Figure 61**  
**Select Data Field**



To modify a Sort Header after it has been specified, choose **Section - Sort Field**. (It will only be available if the cursor is positioned in a Sort Header.) From this dialog, the **Sort Field** button again displays the familiar list of data fields.

Summary information can be specified in the Sort Fields, as well. On a report sorted by department, it is possible to print each department name once, by specifying the Department field in the Sort Header section (and not in the Detail section).

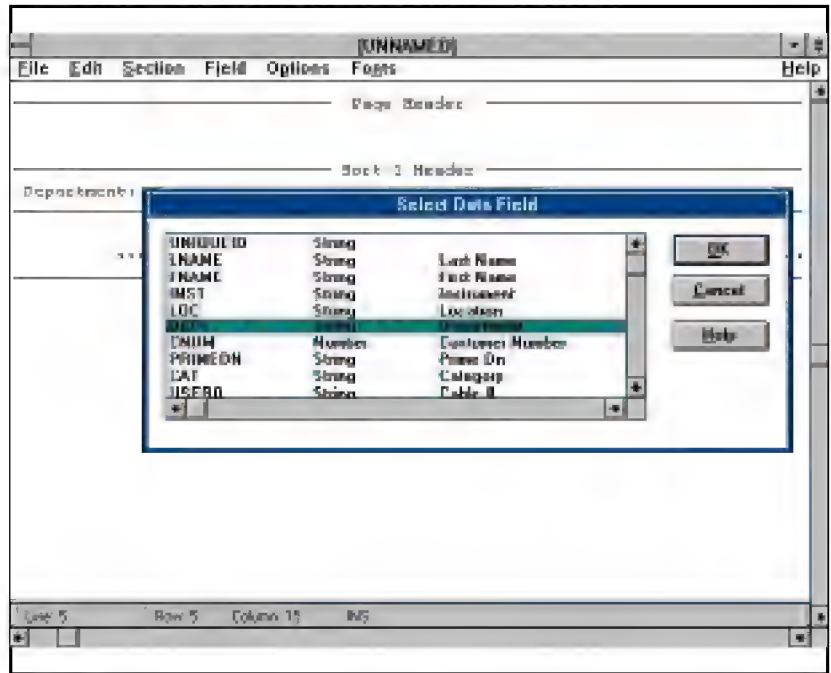
The Sort Header section will print only when the Sort Header's field value changes. It uses the data field on the first record in the new sort group. Typically, the data field chosen to print in the Sort Header should be the same field on which the data are being sorted.

**Specify any special printer considerations for this report**

The Report Generator allows each report form to contain special printer information. Some reports might be designed to print in landscape mode, while others should print in portrait mode. Some reports might require a special printer, an impact printer with special forms, for example.

Choose **File - Printer Setup** to select a printer and the **Setup** button to specify special information about the printer.

**Figure 62**  
**Adding summary information in the Sort Header section**

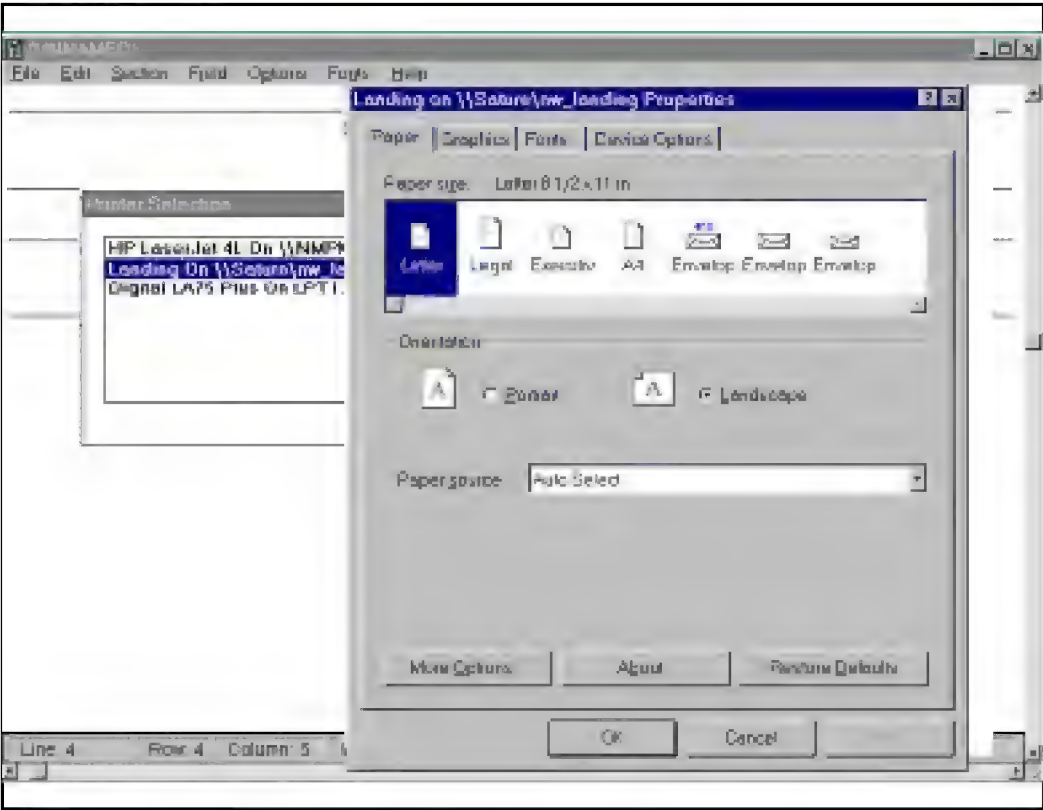


This information is stored with the form so that it applies each time the report is printed. When the Report Generator actually builds the report from the form and the data, you can override this printer information.

### Apply the finishing touches

The Form Editor provides some additional capabilities to tailor the report. As you examine the almost complete report, you might wish to modify the appearance of the report.

**Figure 63**  
**Selecting a printer**



**Lengthening and Shortening Data Fields**

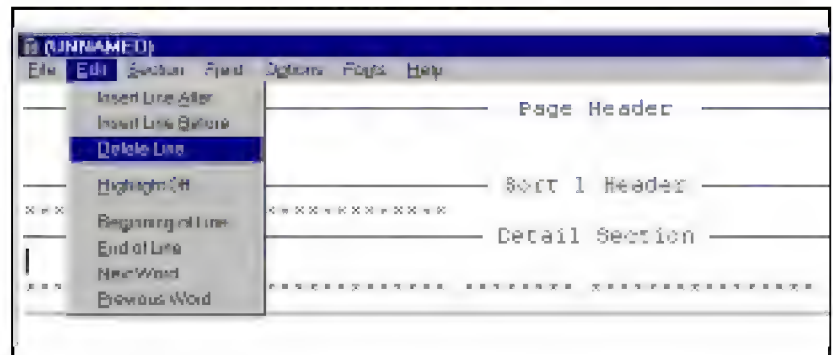
You can adjust the width of the data fields in the report. The area for each data field is marked on the form with the small letter 'x'. The data will be printed in that marked area. If the actual data are longer, they will be truncated to fit in the area; if they are shorter, the rest of the marked area will be filled with blanks. In the example report, you must lengthen the area set aside for the calculated field which holds the name. You might want to shorten a field in order to try to squeeze another field onto the report.

To adjust the width of a data field, place the cursor in the marked area. To shorten the field, press <Delete> or <Backspace>. To widen the field, press any other key. It will appear on the form as the small letter 'x'.

### Adding and Deleting Blank Lines

The Form Editor allows you to add and delete blank lines on the report. On a new form, the data in the Detail section is, by default, double spaced. To make a single-space report, position the cursor on the extra blank line and choose **Edit - Delete Line**.

**Figure 64**  
**Deleting a blank line from the Detail section**



Other items in the **Edit** menu allow you to insert blank lines either above or below the line on which the cursor currently rests.

### Report Parameters

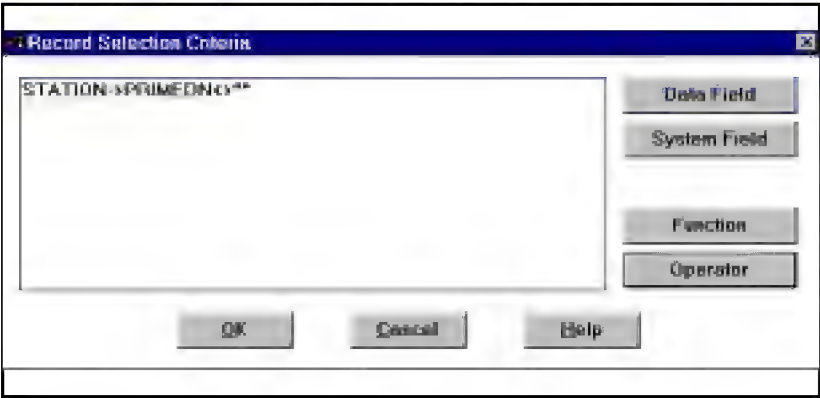
There are a few more options available to complete the report. Choose **Options - Report Parameters** to specify the name of the report as it will appear in the list of available reports. It also allows you to specify margins and other report-wide options.

The Print Trial Records is used for reports that require that the paper be correctly aligned in the printer. It has no effect until you send the report to the printer. At that time, the Report Generator will ask whether it should print a Trial Report. The Trial Report contains the Header and Footer sections and a single line from the Detail Section. Each data field is replaced with a string of the letter 'X' of the appropriate length. You will be asked to print the Trial Report until you click **No**. This allows you to adjust the paper in the printer until it is properly aligned. Then the full report can be printed.

**Report Filter**

The Report Filter selects which records are to be included in the report. Choosing **Options - Report Filter** displays the Record Selection Criteria dialog. This dialog helps you to build an expression, typically from the data fields. As the Report Generator reads each record in the database, it evaluates the expression. When the expression is true, the record will be included in the report.

**Figure 65**  
**Specifying the records to be included in the report**



The Record Selection Criteria dialog operates very much like the Calculation Field dialog. However, you should build an expression, usually including a comparison operator (=, >, <, <>). In the example, we are selecting all records for which there is a PrimeDN. The expression tests whether the PrimeDN field is not equal (<>) to blank ("").

### Modifying fields

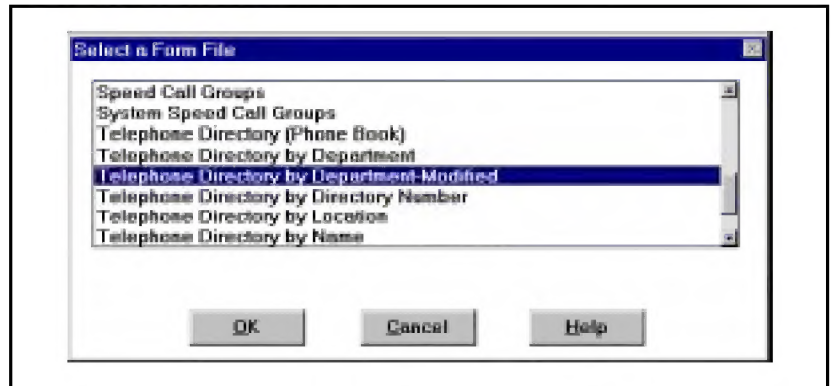
As part of the final tuning, you might want to specify more exactly how the fields are to be displayed. Choose **Field - Edit Current Field**.

The Alignment options operate within the area of the data field, marked by the letter 'x'. The Wrap options should apply when the field will not fit in the area allowed. The section on “Some Special Techniques” discusses how to wrap text. Similar display options, like whether to use commas, control the printing of numeric fields.

### Save the report and test the results

With the initial specification of the form complete, it is time to save the form and test it with the data from the system. Choose **File - Save** or **File - Save As** to save the form. Choosing **File - Exit** returns control to the Report Generator. To test the form, choose **Report - Run Report** to select the report form you wish to run.

**Figure 66**  
Choosing the example form



The Select a Form File list uses the report names specified in the Form Editor's Option/Report Parameters dialog. If you did not specify a name for a new form, this list will display the file name. If you modified an existing form and saved it with a new file name but did not change the Report Name, that Report Name will appear twice. (You should go back into the Form Editor to give your modified report a new Report Name.)

As you run the report, you might find that you wish to modify the form. From the Report Generator choose **Form - Open Existing Report Format** to return to the Form Editor and modify the form.

## Some Special Techniques

The following are a few special techniques available in the Form Editor to help you customize your reports:

### Sort Header section /Break Field

If the cursor is placed in a Sort Header section, the **Section - Break Field** menu item is enabled. The Break Field is a data field that causes the Sort Header section and the Sort Footer section to print. By default (and almost always) the Break Field is the same as the Sort Field that was specified when the Sort Header section was created.

### Word Wrap

If the data field will not fit in the area allowed for it on the form, you can specify that the field should wrap. By default, data which will not fit in the allotted space will be truncated. Wrapping is especially useful for a field like ADN (the list of all Directory Numbers assigned to a station), which can be either quite long or quite short.

Wrapping the data field requires two steps:

- 1        Mark the field as one that should be wrapped using the Field/Edit Current Field dialog. (Wrapping only applies to text fields.) Choose the Wrap Text box to cause the field to wrap at a word.
- 2        Specify where to position the wrapped portion of the field. Position the cursor directly below the field that is to be wrapped and choose **Field - Insert New Field - System Field**.

You can include several overflow areas directly below each other. If you wish to include the line for the overflow only if it is needed, choose **Section - Edit Current Section**. This dialog includes an option to Suppress Blank Lines that will only print the line with the Wrap\_Overflow field if it is used.

### Modifying a standard report

If you choose to modify one of the standard reports distributed with MAT, you will notice that there are numbers in the headers, instead of text. These numbers allow the reports to translate automatically to another language.





**A quick description of some section types not used in the example**

**Sort Footer Section:** Data fields placed in the Sort Footer section can be used like summary data in the Sort Header section. The fields in the Sort Footer section are only printed if the value changes (except that it prints after the detail lines). In addition, Sort Footer data can contain totals and other summary statistics. After placing a data field in the Sort Footer, you are prompted with a list that contains Value (to print the value from the last record in the group) or various summary statistics (include Total, Average, Count, Max, Min). These summary statistics also can be specified by choosing **Field - Edit Current Field** in the Footer Field box.

**Report Header, Report Footer:** These sections can be used to specify data that should print only once at the beginning or the end of the report.